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| **UNIT:** **Natural Resources**  **Aim: WHY CONSERVE WATER?**  **PROBLEMS: As water resources are depleted the water becomes more expensive** | | **LEARNING OBJECTIVES:**   * Students will be able to define vocabulary related to water conservation Students will learn why water is important to living things-including people- and how to help protect it. * Students will gain knowledge in the ways how to became water wise in the home and outdoors to ensure that we have constant supply of water * Students will be able to discuss the different types of water on Earth * Student will be able to summarize why not all the Earth's water is drinkable * Students will be able to f calculate personal water use and formulate a personal water conservation plan * Students will be able to evaluate the effectiveness of water conservation plan   **NS 5-8, PHS -Standards 4.** **Performance Indicator #2.1j, LE-\_Standards 4.** **7.2d, 7.1e,** | | |
| **DO NOW: Please see separate sheet. K\_W\_L chart. What do you know about the water conservation?** | | | **LESSON BACKGROUND: Prior to lesson have students keep a log for five days on how many times during the day need to use water for?** | |
| **MATERIALS:** internet, smart board, PPT\_ prepared by teacher, PHET Colorado simulation , Science Journal, worksheet prepared by teacher, K\_W\_L Chart, Venn **RESOURCES:** <http://www.wateruseitwisely.com/>, http://www.epa.gov/ow/, <http://www.waterconserve.info/>, [**http://www.youtube.com/watch?v=JRF9V1tBykg**](http://www.youtube.com/watch?v=JRF9V1tBykg)**,** .<http://www.epa.gov/safewater/kids/flash/flash_matching.html9watch>, [**http://teacher.scholastic.com/activities/studyjams/water\_cycle/93**](http://teacher.scholastic.com/activities/studyjams/water_cycle/93)**,**  <http://www.awwa.org> | | | | |
| **KEY VOCABULARY**  **Conservation**  **Filtration**  **Sustainable Clean Water**  **Ac**  **Evaporation**  **Hydrologic**  **Transpiration**  **Water Cycle**  **Salinity**  **Condensation**  **Precipitation**  **Evaporation**  **Run-off**  **Reuse**  **Reduce**  **Recycle**  **waste** | **TEACHER ACTIVITY:** Teacher reviews the importance of water. Teacher explains that the water helps us in so many ways. Brainstorm/ Discuss some of these ways with students. **Teacher shows a Venn diagram (interactive) with living creatures on it on a smart board and asks: PIVATOL QUESTION: How is water important to these living things? Sort the words in the Venn diagram-vocabulary game** Teacher explains that the water is an important part of our everyday lives! Let’s take a look of a few important ways on **INTEARACTIVE GAME**. There are thousands of ways that you can contribute on how to conserve natural resources and water. **Turn and talk to your partners and see or discuss how many ways you know on how to conserve water.**  **PIVATOL QUESTION: What are some things that you use water for?** Write your answers on your science journals.Have students talk in groups (2 min) and share with class. Write their answers in the board. Teacher show a video-game) matching fun fact about the water on how much gallons of water it takes to do certain activities. (3min) **PIVATOL QUESTION**: **Do we have an unlimited supply of the water on Earth?** Teacher explains that **No new water is recycled in the process called water cycle. No new water is ever created.** Teacher shows a video to learn more about the water cycle. (3min)  **PIVATOL QUESTION: Why we should conserve? Have students brainstorm in groups (2 min) share their ideas.**Teacher explains that by the year 2050 the U.S. population will have increased by 25 percent. This growing population will place a higher demand on water supplies as well as increase the demand for more food production across the nation. **PIVATOL QUESTION: How will this increase in water consumption affect the availability of fresh water?**  Teacher explains that the water available to planet Earth is the same water that has always been available and the only water that ever will be available. Because water covers three-quarters of the earth’s surface, it might appear that there is plenty to go around. In reality, however, we have a limited amount of usable fresh water.  **Now is the time to seriously address these questions and start doing everything possible to conserve water** | | | **STUDENT: – Student Activity (DI) Students will fill in the K\_W\_L\_ Chart.**  **Students will formulate a personal water conservation plan, and evaluate the effectiveness of water conservation plan.**  **Students keep a log for five days on water usage during the day.**  Have students (pair) sort vocabulary words on a Venn diagram **and see the importance of water to the living creatures.**  **WHOLE CLASS: Have students watch a Video: Why we should conserve natural resources-water?**  [**http://www.youtube.com/watch?v=JRF9V1tBykg**](http://www.youtube.com/watch?v=JRF9V1tBykg)  **Have students take notes on water conservation and brainstorm the importance of water conservation.** Students talk in groups (2 min) and take notes and ask questions on water conservation. Write their question in the board.  <http://www.epa.gov/safewater/kids/flash/flash_matching.html9watch> **Students discuss on how no new water is ever created.** [**http://teacher.scholastic.com/activities/studyjams/water\_cycle/93**](http://teacher.scholastic.com/activities/studyjams/water_cycle/93) **and have students act out with body movements the water cycle, while IEP students play water cycle game on the web site** [**http://apps.southeastwater.com.au/games/education\_kidsroom\_wcactivity.asp**](http://apps.southeastwater.com.au/games/education_kidsroom_wcactivity.asp)  **GROUP WORK: (DI) Group Marie Curie:** Explain your plan of conserving water? Why we should conserve water? **Group Isaac Newton:** How you can make sure that we going to have plenty water for the planet earth in the future?  **Group Alfred Wegener:** Conservation is one way to ensure everyone has enough water and is not too expensive. List some of the ways that your group is going to contribute towards conserving natural resources -water. **Group Charles Darwin:** How will this increase in water consumption affect the way we use water for agriculture to feed our growing population? **INTERACTIVE/SHARE PUBLICATIO**  **Have students design a personal plan on conserving water.**  HOW CAN I HELP: Students list five facts on how can they help to conserve natural resources –water |

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| **Summary:** **Explain some of the ways on how to conserve water at home. Complete the K\_W\_L\_Chart.** | **Review: Discuss the importance of water as essential to life and how you can contribute to the water conservation in school and your home.** | **Assessment:**  student sheet, participation interactive game, group collaboration**,** Do now , class work , personal conservation plan, Venn-diagram |

**Charlotte Danielson’s Framework for Teaching:** Domain 1: Planning and Preparation 1e: Designing Coherent instruction Domain 3: Instruction Competencies 3b: Using Questioning and Discussion Domain 3: Instruction Competencies 3c: Engaging Students in Learning